



UNIVERSITI PUTRA MALAYSIA

**Exchange Rate Shocks and The
Effectiveness of Macroeconomic Policies in Malaysia**

ALIASUDDIN

FEP 2009 2

Exchange Rate Shocks and the Effectiveness of Macroeconomic Policies in Malaysia

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**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

July 2009



Dedication

**To my beloved late wife and late son
(They were missing in the tsunami that attacked Aceh on December 26, 2004)**

To my lovely wife and daughter

To my beloved mother, late father, brothers and sisters

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment
of the requirement for the Degree of Doctor of Philosophy

**Exchange Rate Shocks and
the Effectiveness of Macroeconomic Policies in Malaysia**

By

ALIASUDDIN

July 2009

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The 1997–1998 financial crises had significantly affected the East Asian countries including Malaysia. The economic growth during the crises was very low and several quarters experienced negative growth compared to the pre-crisis period. The slower economic growth caused lower income and higher unemployment because producers tried to decrease their productions due to the lower demand during the crises. The government tried to stabilize the economy by implementing some policies such as higher interest rate as a monetary policy instrument. However, the policies were not so effective to stabilize the crises because the economy recovered only after two years.

Using quarterly data for the period 1980.1–2002.4, a structural vector autoregressive (SVAR) model is utilized in the study. There are eleven variables are used in the study, where five of them are exogenous variables, whereas others are endogenous ones. So, the structural equations in the study are saving deposit rate and hereafter denoted as saving interest rate, lending interest rate, government expenditure, foreign income, exchange rate, money demand, consumption, investment, exports, imports, and income. The SVAR is used because it can examine the exchange rate effects on the

macroeconomic variables as well as the role of monetary and fiscal policies on the exchange rate. The SVAR also produces two important tools, forecast error variance decomposition and impulse response function. Impulse response function is used to analyze the effects of exchange rate shocks on the macroeconomic variables and the effectiveness of macroeconomic policies, whereas forecast error variance decomposition is used to analyze the sources of fluctuations of macroeconomic variables.

The fluctuations of exchange rate are mainly influenced by own shocks and foreign income. Foreign income has important role because most of the exported goods are sold in the international market. There are two variables that influence the money demand, exchange rate and saving interest rate. This means that exchange rate has important role on the money demand. People consider the exchange rate in their money demand besides saving interest rate.

The fluctuations of investment are dominantly determined by exchange rate shocks and saving interest rate shocks. Again, the exchange rate is so important in the investment decision, although interest rate is an important factor. There are two shocks that determine the fluctuations of imports, exchange rate and saving interest rate. Saving interest rate has power to influence the imports because most of Malaysians use credit to buy goods and services. So, interest rate is very crucial in the demand for imported goods and services. The fluctuations of income are dominantly influenced by foreign income. This means that any fluctuation in the economic is caused by outside factor. Exchange rate fluctuation can be minimized by implementing monetary and fiscal

policies. However, the monetary and fiscal policies are not effective to stabilize the exchange rate fluctuations because the fluctuations come from outside of the economy.

Abstrak tesis yang dikemukakan kepada Senate Universiti Putra Malaysia untuk memenuhi keperluan Ijazah Doktor Falsafah

**Kejutannya–Kejutannya Tukaran Wang Asing dan
Keberkesanan Dasar–Dasar Makroekonomi di Malaysia**

Oleh

ALIASUDDIN

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Krisis kewangan pada tahun 1997–1998 telah menjejaskan ekonomi di rantau Asia secara berkesan termasuk Malaysia. Pertumbuhan ekonomi semasa krisis kewangan tersebut adalah sangat rendah dan bahkan sebahagian adalah di bawah pasar kosong dibanding dengan period sebelum krisis tersebut. Pertumbuhan ekonomi yang rendah telah menyebabkan pendapatan yang rendah dan pengangguran yang tinggi kerana para pengeluar mengurangkan pengeluaran mereka kerana kadar permintaan yang rendah semasa krisis. Kerajaan telah mencuba untuk menstabilkan ekonomi dengan melaksanakan dasar–dasar monetari seperti kadar faedah yang lebih tinggi. Walau bagaimanapun, kebijaksanaan tersebut tidak berkesan untuk menstabilkan krisis keuangan kerana ekonomi pulih sepenuhnya selepas dua tahun.

Menggunakan data suku tahunan dari period 1980.1–2002.4, model struktur vektor autoregresif (SVAR) diguna pakai dalam kajian ini. Ada sebelas pemboleh ubah–pemboleh ubah yang diguna pakai, di mana lima daripadanya adalah pemboleh ubah–pemboleh ubah eksogen, sedangkan yang lainnya iaitu pemboleh ubah–pemboleh ubah endogen. Sehingga, persamaan–persamaan struktur dalam kajian ini adalah kadar

faedah simpanan, kadar faedah pinjaman, perbelanjaan kerajaan, pendapatan asing, kadar tukaran wang asing, penggunaan, pelaburan, eksport, import, dan pendapatan. SVAR diguna pakai dalam kajian ini kerana ianya boleh menganalisis kesan-kesan tukaran wang asing kepada pemboleh ubah-pemboleh ubah makroekonomi dan juga peranan dasar monetari dan dasar fiskal kepada tukaran wang asing. SVAR juga menghasilkan dua alat penting iaitu penguraian kelainan ralat ramalan (FEVD) dan fungsi sambutan denyut (IRF) di mana IRF diguna pakai untuk mengkaji kesan-kesan kejutan-kejutan tukaran wang asing kepada pemboleh ubah-pemboleh ubah makroekonomi dan keberkesanan dasar-dasar makroekonomi, sedangkan FEVD diguna pakai untuk mengkaji punca-punca turun naik-turun naik pemboleh ubah-pemboleh ubah makroekonomi.

Naik turun-naik turun tukarang wang asing ditentukan oleh kejutan-kejutan sendiri dan kejutan-kejutan pendapatan asing. Pendapatan wang asing mempunyai peranan memandangkan sebahagian daripada keluaran adalah dijual di pasaran antara bangsa. Ada dua pemboleh ubah-pemboleh ubah yang mempengaruhi permintaan uang, tukaran wang asing dan kadar faedah simpanan. Ini bermakna tukaran wang asing mempunyai peranan penting dalam permintaan wang. Rakyat mengambil kira kadara tukaran wang asing dalam permintaan wang selain kadar faedah simpanan.

Turun naik-turun naik pelabuan terutamanya ditentukan oleh kejutan-kejutan tukaran wang asing dan kadar faedah simpanan. Sekali lagi, tukaran wang asing adalah penting dalam keputusan pelaburan, meskipun faktor kadar faedah juga penting. Ada dua kejutan-kejutan yang menentukan turun naik-turun naik import, tukaran wang asing dan

kadar faedah simpanan. Kadar faedah simpanan mempunyai kuasa kerana kebanyakan rakyat Malaysia membeli barangan-barangan dan perkhidmatan secara kredit. Dengan ini, kadar faedah begitu penting dalam permintaan barangan-barangan import dan perkhidmatan-perkhidmatan. Turun naik-turun naik pendapatan dominannya dipengaruhi oleh pendapatan asing. Ini mempunyai makna bahawa tiap-tiap naik turun –naik turun dalam ekonomi adalah disebabkan oleh faktor luaran. Dengan ini, dasar-dasar monetari dan fiskal adalah tidak berkesan untuk menstabilkan turun naik-turun naik tukaran wang asing kerana punca turun naik –turn naik tersebut adalah dari luaran.

ACKNOWLEDGEMENTS

All praise due to ALLAH, the Most Gracious and Merciful, for giving me the guidance, strength, courage, and determination to complete this study.

I would like to thank my supervisor, Prof. Dr. Ahmad Zubaidi Baharumshah, for his invaluable guidance, encouragement, and constructive criticisms throughout the study period, and for giving me total freedom to explore my research. His enthusiasm and patience have left a feeling of indebtedness that cannot be fully expressed.

Furthermore, I would like to sincerely and earnestly record my indebtedness to Associate Professor Dr. Zainal Abidin Mohamed, the Department of Agribusiness and Information System, Faculty of Agriculture, UPM, and a member of my supervisory committee, for his advice and supervision. My grateful appreciation also goes to Professor Dr. Zulkornain Yusop, the Department of Economics, Faculty of Economics and Management, UPM, and a member of my supervisory committee, for his advices, guidance, critical assessment and useful suggestions during the entire course of the study.

My heartfelt appreciation and gratitude also goes to the staff members of the Faculty of Economics and Management, UPM, for their generous guidance and help during the entire length of my study in Malaysia. Special thanks go to Professor Dr. Azali Mohamed for his excellent and constructive comments and suggestions for this research, and Professor Dr. Muzafarshah Habibullah.

Special thanks go to my friends in UPM, Ernawati, Adnan Al Sanoy, Riyadh Abbas, and Junaidi, and all of the students in the Department of Economics.

I would like to express my thank to Vice Rector for Academic Affairs Universitas Syiah Kuala, Prof. Dr. Ir. Samsul Rizal, M.Eng, Dean Faculty of Economics, Universitas Syiah Kuala, Prof. Dr. Raja Masbar, M.Sc, former Dean Faculty of Economics, Universitas Syiah Kuala, Prof. Dr. Said Muhammad, MA, and former Head Graduate School of Economics, Dr. Nazamuddin, MA, for their invaluable guidance and encouragement, throughout the study period. Also my thanks go to my friends in the Faculty of Economics, Universitas Syiah Kuala, Prof. Dr. Jasman J. Ma'ruf, SE, MBA, Dr. Islahuddin, M.Ec, Rustam Effendi, SE, M.Ec, Ir. M. Yunus Usman, MM, Dr. Mirza Tabrani, SE, MBA, Nurdasila Darsono, SE, MM, Ir. Husni Usman, M.Sc, Faisal, SE, M.Si, MA, Sulaiman, SE, MM, Ikhsan, SE, MA, M. Ilhamsyah Siregar, SE, MA, Catur Yuniar Susanti, SE, MA, Ridwan Nurdin, SE, MM, Putri Bitusyi Syathi, SE, MA, Miksalmina Muhammad, SE, MA, Burhanuddin, SE, Marwan Yunus, SE, M. Yacob, SE, Cut Fauziah, Sri Rahayu, Femilia, SE, Ak., Anto, and Zulkarnain.

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DECLARATION

I hereby declare that this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.



ALIASUDDIN

Date: July 16, 2009

TABLE OF CONTENTS

DEDICATION	ii
ABSTRACT	iii
ABSTRAK	vi
ACKNOWLEDGMENT	ix
APPROVAL	xi
DECLARATION	xiii
LIST OF TABLES	xvii
LIST OF FIGURES	xix
LIST OF ABBREVIATIONS	xxi

CHAPTER

1 INTRODUCTION	1.1
1.1 Background of the Study	1.1
1.2 Problem Statement	1.14
1.3 Objective of the Study	1.19
1.4 Significant of the Study	1.21
1.5 Organization of the Study	1.22
2 LITERATURE REVIEW	2.1
2.1 The Role of Exchange Rate	2.1
2.2 Exchange Rate Determinants	2.8
2.3 The Role of Monetary Policy	2.29
2.4 The Role of Fiscal Policy	2.43
2.5 Method of Analysis	2.59
3 METHODOLOGY	3.1
3.1 Theoretical Framework	3.1
3.2 Exchange Rate System	3.1
3.2.1 Flexible Exchange Rate Regime	3.2
3.2.2 Fixed Exchange Rate Regime	3.3
3.3 The Role of Fiscal Policy	3.5
3.4 The Role of Monetary Policy	3.7
3.5 Goods Market Equilibrium	3.11
3.5.1 Consumption Function	3.12
3.5.2 Investment Function	3.13
3.5.3 Government Expenditure	3.14
3.5.4 Export Function	3.14
3.5.5 Import Function	3.15
3.6 Money Market Equilibrium	3.16
3.6.1 Demand for Money	3.16

3.6.2	Supply of Money	3.17
3.7	Model Specification	3.17
3.8	Estimation Method	3.23
3.9	The Estimated SVAR Model	3.42
3.10	Source of Data and Definition of Variables	3.46
4	RESULTS AND DISCUSSION	4.1
4.1	Data Deseasonalization	4.1
4.2	The Unit Root Test for Non-Stationary	4.2
4.3	Estimation of VAR	4.5
4.4	Estimation of SVAR Equations	4.5
4.5	Estimated SVAR Equations	4.7
4.5.1	Money Demand Function	4.9
4.5.2	Consumption Function	4.10
4.5.3	Investment Function	4.12
4.5.4	Export Function	4.13
4.5.5	Import Function	4.14
4.5.6	Income Function	4.16
4.6	Forecast Error Variance Decomposition	4.18
4.6.1	Saving Interest Rate	4.18
4.6.2	Lending Interest Rate	4.20
4.6.3	Government Expenditure	4.21
4.6.4	Foreign Income	4.22
4.6.5	Exchange Rate	4.23
4.6.6	Money Demand	4.25
4.6.7	Consumption	4.26
4.6.8	Investment	4.27
4.6.9	Export	4.29
4.6.10	Import	4.30
4.6.11	Income	4.32
4.7	Impulse Response Function	4.35
4.8	The Effects of Exchange Rate Shocks	4.35
4.8.1	The Response of Money Demand to Exchange Rate Shock	4.36
4.8.2	The Response of Consumption to Exchange Rate Shock	4.37
4.8.3	The Response of Investment to Exchange Rate Shock	4.38
4.8.4	The Response of Exports to Exchange Rate Shock	4.40
4.8.5	The Response of Imports to Exchange Rate Shock	4.41
4.8.6	The Response of Economy to Exchange Rate Shock	4.42
4.9	The Effectiveness of Monetary Policy	4.43
4.9.1	The Response of Exchange Rate to Saving Interest Rate Shock	4.43
4.9.2	The Response of Exchange Rate to Lending Interest Rate Shock	4.45
4.9.3	The Response of Exchange Rate to Money Supply Shock	4.46
4.10	The Response of Exchange Rate to Government Spending Shock	4.47
4.11	The Effectiveness of Macroeconomic Policies	4.48

5. SUMMARY AND CONCLUSIONS	5.1
5.1 Summary	5.1
5.2 Conclusion	5.5
5.3 Policy Implications	5.6
5.4 Limitations of the Study and Suggestions for Further Research	5.7
 REFERENCES	 R.1
APPENDIX	A.1
BIODATA OF STUDENT	B.1

LIST OF TABLES

Table

1.1	Malaysia's Gross Domestic Product (GDP) at 1987 Constant Price	1.4
1.2	Exchange Rate (MYR per unit USD)	1.6
1.3	Selected Economic Indicators	1.12
3.1	Summary of Monetary and Fiscal Policy Effects in Open Economies	3.11
3.2	The Expected Signs of Coefficients	3.46
4.1	Name of Variables	4.3
4.2	The Unit Root Test for Non-Stationarity	4.4
4.3	Akaike Information Criteria and Schwartz Bayesian Criteria	4.5
4.4	Chi-square Test of Over-identifying Restrictions	4.6
4.5	The Estimated Exogenous Variables	4.8
4.6	The Estimated Money Demand Function	4.10
4.7	The Estimated Consumption Function	4.11
4.8	The Estimated Investment Function	4.13
4.9	The Estimated Export Function	4.14
4.10	The Estimated Import Function	4.15
4.11	The Estimated Income Function	4.17
4.12	Forecast Error Variance Decomposition of Saving Interest Rate	4.19
4.13	Forecast Error Variance Decomposition of Lending Interest Rate	4.20
4.14	Forecast Error Variance Decomposition of Government Expenditure	4.22
4.15	Forecast Error Variance Decomposition of Foreign Income	4.23
4.16	Forecast Error Variance Decomposition of Exchange Rate	4.24

4.17 Forecast Error Variance Decomposition of Money Demand	4.26
4.18 Forecast Error Variance Decomposition of Consumption	4.27
4.19 Forecast Error Variance Decomposition of Investment	4.28
4.20 Forecast Error Variance Decomposition of Exports	4.29
4.21 Forecast Error Variance Decomposition of Imports	4.31
4.22 Forecast Error Variance Decomposition of Income	4.33

LIST OF FIGURES

Figure	Page
1.1 Growth of GDP and Major Sectors	1.3
1.2 Nominal Exchange Rate Fluctuations	1.7
1.3 Interest Rate Fluctuations 1980–2000	1.8
1.4 Inflation Rate Fluctuations 1970–2001	1.11
3.1 Equilibrium under Flexible Exchange Rate	3.2
3.2 Ineffectiveness of Fiscal Policy under Flexible Exchange Rate	3.4
3.3 Effectiveness of Fiscal Policy under Perfect Capital Mobility	3.7
3.4 Monetary Policy under Flexible Exchange Rate and Perfect Capital Mobility	3.8
3.5 The Ineffectiveness of Monetary Policy under Fixed Exchange Rate and Perfect Capital Mobility	3.10
4.1 The Response of Money Demand to a Unit Innovation of The Exchange Rate Shock	4.36
4.2 The Response of Consumption to a Unit Innovation of The Exchange Rate Shock	4.38
4.3 The Response of Investment to a Unit Innovation of The Exchange Rate Shock	4.39
4.4 The Response of Exports to a Unit Innovation of The Exchange Rate Shock	4.40
4.5 The Response of Imports to a Unit Innovation of The Exchange Rate Shock	4.41
4.6 The Response of Economy to a Unit Innovation of The Exchange Rate Shock	4.43
4.7 The Response of Exchange Rate to a Unit Innovation of Saving Interest Rate Shock	4.45
4.8 The Response of Exchange Rate to a Unit Innovation of Lending Interest Rate Shock	4.46
4.9 The Response of Exchange Rate to a Unit Innovation of Money Supply Shock	4.47



**4.10 The Response of Exchange Rate to a Unit Innovation of
Government Spending Shock**

4.48

LIST OF ABBREVIATIONS

AD	Aggregate Demand
ADT	Augmented Dickey Fuller
AIC	Akaike Information Criteria
BNM	Bank Negara Malaysia
C	Consumption
CPI	Consumer Price Index
ER	Exchange Rate
FC	Foreign Currency
FDI	Foreign Direct Investment
FEVD	Forecast Error Variance Decomposition
FFR	Federal Fund Rate
G-7	Group 7
GARCH	Generalized Autoregressive Conditional Heteroscedasticity
GDP	Gross Domestic Product
GE	Government Expenditure
GIR	Generalized Impulse Response
I	Investment
i.i.d.	identically independently distributed
IP	Industrial Production
IPI	Industrial Production Index
IRF	Impulse Response Function
IS	Equilibrium in Goods Market

IS–LM	Equilibrium in Goods and Money Markets
LC	Local Currency
LM	Equilibrium in Money Market/Liquidity Preference
M	Import
M0	Currency/Very Narrow Money
M1	Narrow Money
M2	Broad Money
MA	Moving Average
MARMA	Multivariate Moving Average
MD	Money Demand
MS	Money Supply
MSC	Multimedia Super Corridor
MYR	Malaysian Ringgit
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
O–R	Obstfeld and Rogoff
PC	Commodity Price
PE	Expected Price
PF	Foreign Price
PP	Phillips Perron
RATS	Regression Analysis of Time Series
RBC	Real Business Cycle
RL	Lending Interest Rate
RS	Saving Interest Rate

SBC	Schwartz Bayesian Criteria
SIC	Standardized Industrial Code
SMA	Structural Moving Average
SVAR	Structural Vector Autoregressive
UIP	Uncovered Interest Parity
US	United States
USD	US Dollar
VAR	Vector Autoregressive
VEC	Vector Error Correction
VECM	Vector Error Correction Model
WPO	World Price Oil
X	Export
Y	Income/Output/Production
YF	Foreign Income

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Efforts have been made by the government of Malaysia to implement sustainable and consistent development policies in order to achieve the highest economic performances. The significant policies have been started since the late 1970s. The policies include low interest rate, flexible exchange rate, deregulations of international capital flows, enhancing competition and efficiency in the banking system, and modernizing the open market operation and capital markets. The policy was directed to liberalizing the domestic interest rate with the aim of mobilizing efficiently the domestic sources of funds. Meanwhile, lifting controls on credit allows the banking sector to be more responsive to the market forces. Lifting restrictions on international capital flows allows foreign investor to participate more efficiently in domestic industrial activities.

The policies continued through the 1980s by modernizing the financial system such as transforming the banking system and the credit market, and the capital and money markets. The policies were aimed at increasing the competition in the financial system and at the same time provided a flexible means for managing liquidity through open market operation. The government continues with efforts to strengthen the financial system with a view to creating a more competitive and resilient financial sector.